

2003 WILDLIFE HARVEST AND POPULATION STATUS REPORT NORTHERN BOBWHITE

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QUAIL ABUNDANCE

Quail roadside surveys were conducted by Conservation Agents during August 1-15. Agents count the number of quail they see while driving 20 m.p.h. along permanent 30-mile routes. These observations provide an *index* of quail abundance, and not an actual estimate of quail across the landscape. The long-term trend of the index, however, relates fairly well to other indices of quail abundance (e.g., North American Breeding Bird Survey, Missouri quail harvest estimates). The Agents' routes are almost entirely through private land, so the quail index is a reflection of conditions on Missouri's agricultural and private recreational lands.

Agents surveyed 109 of Missouri's 114 counties. Several metropolitan counties (Jackson, St. Louis and St. Charles) have not been surveyed for many years, and two additional counties were not measured this year. The Lewis County survey was temporarily deleted because road repair precluded driving the route. The Clay County route was permanently deleted because urban development and high vehicle traffic rendered the route unsafe to drive at the specified 20 m.p.h.

Quail rebounded nicely in some areas of the state, however, the statewide average count improved only slightly from the record low levels of the past few years. The total quail index (average number of quail per route) of 3.90 is 11% above the 2002 count of 3.51, but 53% below the long-term average (8.36, 1983-2002) (Table 1). The mean statewide brood count of 0.28 per 30-mile route is similar to the 2002 index of 0.27, and 50% lower than the long-term average (0.56, 1983-2002) (Table 1).

Regional average total quail counts were highest (4-11 quail per route) in the Northwestern Prairie, Northeastern Riverbreaks and Northern Riverbreaks zoogeographic regions, moderate (3 quail per route) in the Western Prairie, Western Ozark Border, and Mississippi Lowland, and lowest (<3 quail) in the Northern & Eastern Ozark Border and Ozark Plateau regions (Table 1, Figures 1 and 2).

In addition to surveying fixed routes, 99 of the conservation agents provided their perception of quail numbers in each county. Their impressions are based on observations of quail over the entire county during May-July, observations of farmers, etc. In this evaluation, 11 counties were judged excellent or good, 42 counties were judged as fair, and 46 counties were judged to have poor quail populations. On a regional basis, the number of counties rated as good or excellent was 8 in the north, 4 in the Western Ozark Border/Prairie regions, and 0 in the Ozark/Mississippi Lowlands regions.

Prospects for the 2003 hunting season are good, with abundance being highest across north Missouri. Also, quail hunting should be better this year in the Western Prairie, Mississippi Lowland and Northern & Eastern Ozark Border zoogeographic regions. Although quail populations are still below average, hunters will likely find plenty of quail in areas where weather has been mild over the

past year and habitat is good. For example, early surveys from some MDC conservation areas show 1 quail per 2 acres, a level long regarded as good in the Midwest.

This year's slight rebound in quail abundance is welcome and explainable only by speculation. Weather typically has a major effect on year-to-year abundance, and the potential for such effects are evident this year. For example, the scarcity of quail in the Ozarks, and abundance of quail in the northwest could partly be the result of severe winter weather. The Ozarks received near-record snowfall (e.g., Springfield reported 4th snowiest winter since 1895 with 38.5 inches by the end of March), whereas St. Joseph received only 3.5 inches.

The northwest part of the state is noteworthy, showing a marked increase in quail abundance over the past 5 years (Figure 2). Likely contributing factors are mild weather and habitat management. Although it might be a coincidence, the northwest staff's intensive work with the USDA, land owners and quail hunters (<http://www.coveyheadquarters.com/>) could be part of the reason for improved quail populations.

The overall continued dearth of quail reflects Missouri's widespread poor habitat. The list of problems is long and includes over-grazed pastures, overly thick stands of grass in old fields and Conservation Reserve Program fields, natural replacement of woody thickets by large canopied trees, replacement of woody draws by grass waterways, removal of woody cover in crop fields and along roadsides, red cedars filling areas once occupied by grasses and weeds, monocultures of crops, grains and forages, etc. The result of these poor habitat conditions is a scarcity of quail. However, there are pockets of abundant quail where landowners and/or hunters have actively managed habitat. MDC biologists can provide assistance with numerous productive practices including disking, prescribed fire, shrub thicket restoration, woodland edge-feathering, crop-field borders, native grassland restoration, etc.

Efforts by quail enthusiasts to improve habitat are being supported in 2003 at a level never seen before. Support includes a new MDC quail restoration plan (<http://www.conservation.state.mo.us/landown/wild/quail/>), a 2002 USDA Farm Bill that has specific programs for quail, a national quail plan under the auspices of the Southeastern Association of Fish and Wildlife Agencies (Missouri is a member agency) (<http://www.qu.org/seqsg/nbc/nbc.cfm>), and continued assistance from Quail Unlimited and Pheasants Forever chapters of Missouri.

2002-2003 HUNTING SEASON

The 2002-2003 hunting season was fair. Harvest information was collected from a post-season mail survey of a random sample of Missouri small game permit holders. The estimated number of licensed hunters that hunted quail during the 2002-2003 season was the lowest since 1967, the year the survey began (Figure 3). Hunter numbers of 39,636 during the season were 65% below the long-term average of 114,026 (1967-2001). Harvest of 374,497 was 80% below the long-term average (1967-2001; 1,858,621). Despite the large decline in quail hunting, the sport still is a major recreational activity with 255,269 days spent in the field in the 2002-2003 season. Moreover, hunting success for today's quail hunter is not as poor as the low total quail harvest would indicate. The average number of quail bagged per day of hunting has not declined as dramatically as the total harvest. The daily bag was 2.9 for the 10 "best" years of quail hunting, 1.9 for the worst 10 years, and 1.5 during the last season. Although total harvest is down 80%, hunting success (expressed as daily bag) is down only 38% compared to the average for 1967-2001.

TABLE 1. Mean number of individual quail and broods per route observed by Conservation Agents along 109, 30-mile routes during 1-15 August, 2003.

Zoogeographic Region*	Routes	Total Quail			Broods		
		2002	2003	1983-2002 Average	2002	2003	1983-2002 Average
Northwestern Prairie	11	8.08	10.54	8.61	1	0.91	0.59
Northern Riverbreaks	11	5.36	4.18	8.95	0.45	0.27	0.59
Northeastern Riverbreaks	19	5.30	6.74	10.86	0.3	0.47	0.69
Western Prairie	12	1.67	3.50	19.13	0	0.17	1.29
Western Ozark Border	13	3.23	3.23	8.12	0.15	0.23	0.54
Ozark Plateau	24	2.21	0.54	3.18	0.17	0.04	0.22
Northern & Eastern Ozark Border	12	0.25	1.33	3.20	0	0.08	0.23
Mississippi Lowland	7	1.43	3.14	6.92	0.14	0.29	0.59
STATEWIDE	109	3.51	3.90	8.36	0.27	0.28	0.56

*See Figure 1.



FIGURE 1. Zoogeographic regions of Missouri

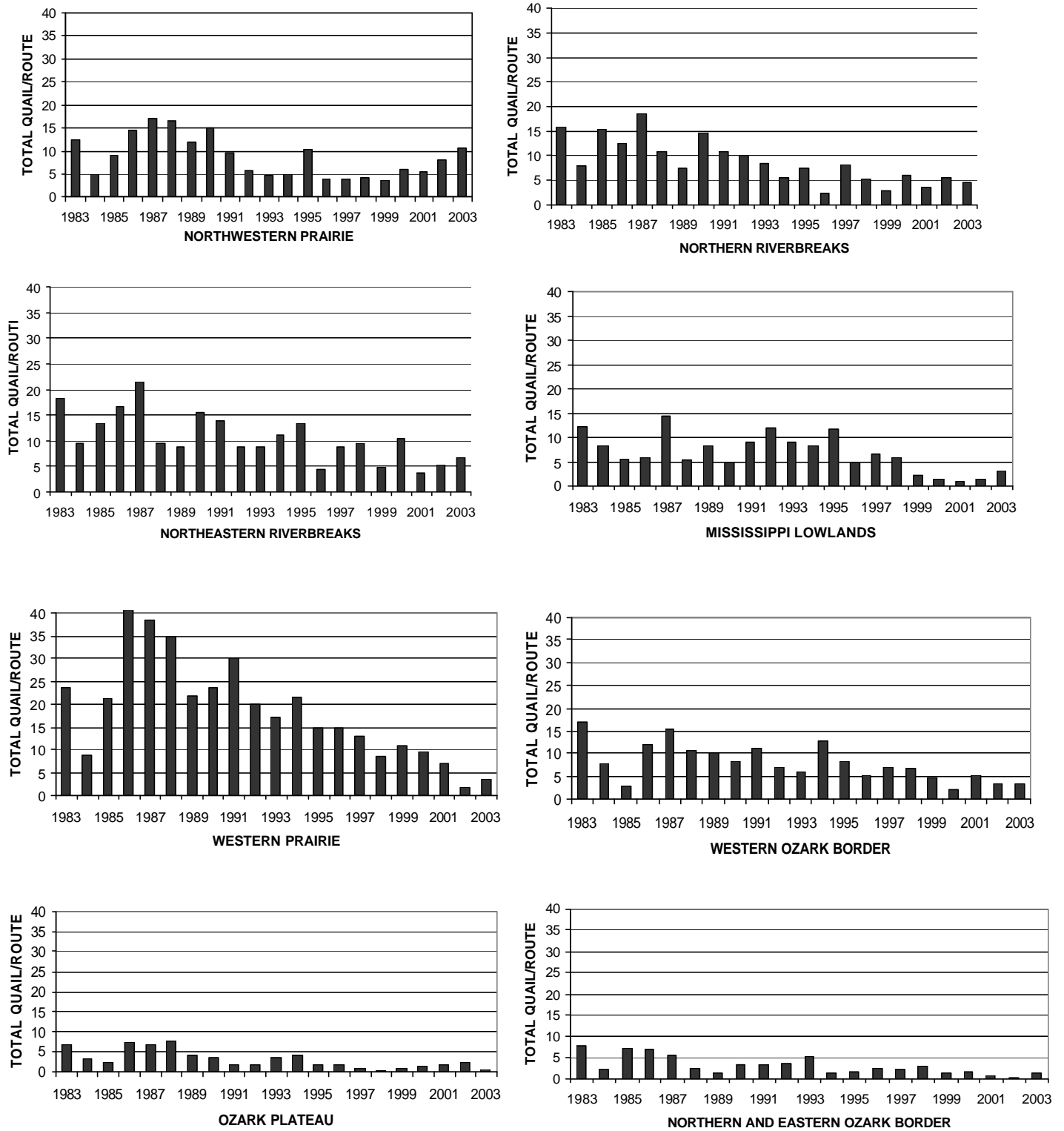


Figure 2. Average number of quail per route from August roadside survey, by zoogeographic region, 1983 – 2003.

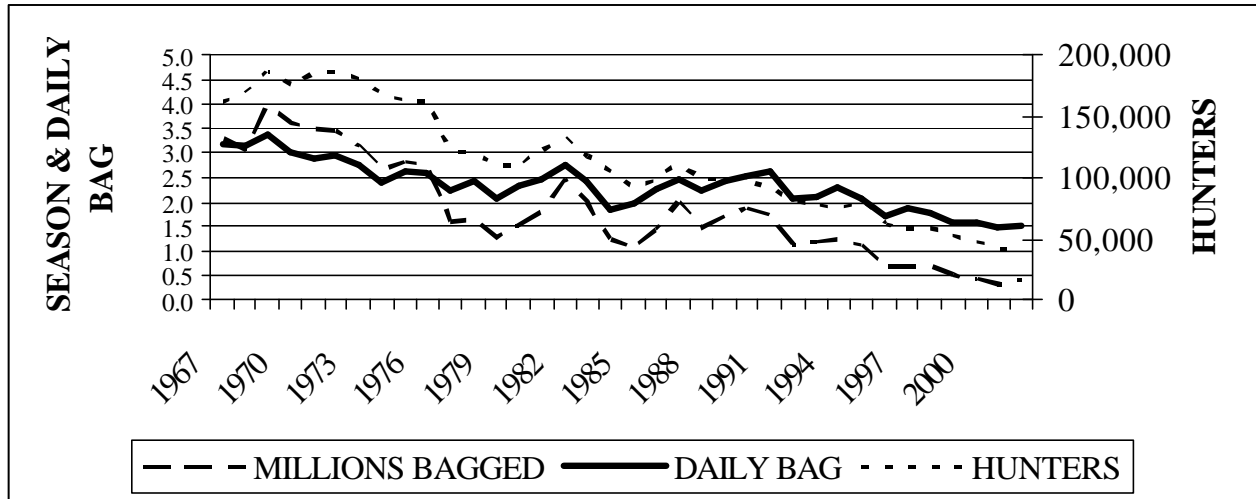


Figure 3. Trends in the number of resident licensed quail hunters and harvest during 1967 – 2002. Estimates obtained from a random mail survey of small game hunters.